Commonwealth of Massachusetts
Sustainable Design Roundtable

March 10, 2005
Meeting Notes

Sponsored by the
Executive Office of Environmental Affairs
Division of Capital Asset Management

through a grant from the
Massachusetts Technology Collaborative

Introduction

The Massachusetts Sustainable Design Roundtable held its second meeting on March 10, 2005 at the New England Regional headquarters of the U.S. Environmental Protection Agency (EPA) in Boston, Massachusetts. See Appendix A for a list of the 50 attendees. The agenda for the meeting is in Appendix B. Welcoming remarks were made by representatives of the General Services Administration (GSA), the Massachusetts Division of Capital Asset Management (DCAM), the Department of Housing and Community Development (DHCD), the Massachusetts Port Authority (Massport) and the Department of Education (DOE). See below for specifics on their comments. Status updates by chairs of the seven Roundtable working groups followed. Their presentations focused on the available research and programs in their barrier category, resource needs of the group, and on what the group wants to accomplish during the year in order to arrive at recommendations. In the last part of the Roundtable session, Roundtable members discussed some of the issues and approaches that were highlighted earlier in the presentations. Roundtable staff also talked about what the Roundtable and its working groups need to do to stay on track.

The Roundtable would like to thank the EPA New England Office for hosting the March 10 meeting as well as HMFH Architects for sponsoring the breakfast before the meeting. This report contains the notes on the meeting. Links to the PowerPoint presentations and handouts used by the presenters at the March 10 meeting can be found on the website of the Massachusetts Sustainable Design Roundtable: www.mass.gov/envir/Sustainable/initiatives/initiatives_roundtable.htm

Welcoming Remarks

John Buckley, General Services Administration (GSA)

- The GSA wants to know how green the agency can afford to be. To this end, GSA funded a cost study on how much it would cost to build two common federal building types to the US Green Building Council's Leadership in Energy and Environmental (LEED) ratings. The GSA LEED cost study may be accessed at the website http://www.wbdg.org.

- Beginning FY 2004, all GSA buildings must be certified through the LEED program. Projects are encouraged to exceed basic LEED green building certification and achieve the LEED Silver standard. The GSA is including a 2.5% increase in benchmark cost models to allow for achievement of a silver LEED rating.

- The EPA regional laboratory in Chelmsford, MA has been built by the GSA as a LEED Building. The building has won several industry awards. Multiple green initiatives were pursued, including runoff from the roof to wetlands, an innovative air system, xeriscaping, and minimal site disturbance.

- EPA and GSA are leading by example as sustainability principles are being incorporated into renovation plans for the McCormack Post Office Square building which will serve as the new headquarters for EPA New England. Its design including a green roof will be completed by mid April 2005. The project will seek a LEED Silver rating.

Current Massachusetts Building Efforts

John DiModica, Division of Capital Asset Management

- DCAM is involved with design and construction of state buildings, as well as operating and maintaining existing state buildings. DCAM has a $300 million annual budget that is spent on large projects as well as smaller improvements like roof and HVAC repairs.

- DCAM maintains a sustainable design program that provides sustainable design support and expertise, and supports and manages energy savings performance contracts. These projects are funded through recovered savings.

- For new construction projects, DCAM has contractors follow its Sustainable Design Guidelines (Instructions for Designers, Form 9) and also Standard Specifications. These documents list Volatile Organic Compound (VOC) material standards and recommend energy studies among other requirements.

- DCAM is considering using the LEED rating system to be used for new state building projects. However, discussions are in progress as to whether LEED should be used as an internal guideline or if DCAM should actually pay to register.

- An exemplary state project is the new Technology Center at Cape Cod Community College. The college was proactive and requested to build a LEED project. The Technology Center is DCAM's first LEED project, to be completed in 2005 with a goal of achieving LEED gold. Included are photovoltaic solar panels, a storm water reuse system, daylighting and advanced building controls. The new Technology Center is costing 8% more to build (mostly because of the photovoltaic system).

- DCAM also runs the Energy Savings Performance Contracts Program. The agency is beginning to integrate more renewable energy in projects—e.g., the wind turbine at the Mass Maritime Academy. DCAM program managers are becoming more involved with construction and demolition waste recovery and recycling and the integration of long term operating costs in the design stage.

Joe Buckley, Department of Housing and Community Development

- DHCD's target population is low/moderate income people, and those with special needs.

- DHCD is separated into three divisions:
  - The Division of Community Services has several service and construction-related community service programs. Energy conservation programs help reduce heating costs for households and economic development programs help revitalize stressed neighborhoods.
  - The Division of Housing Development works largely with housing credits and developers using its $63 million annual budget to offer affordable housing development programs, tax credits, grants and subsidies.
  - The Division of Public Housing and Rental Assistance administers the Section 8 voucher program. This division houses the construction arm, 95% of the projects are modernization, 5% are new construction.

- DHCD is part of the Office of Commonwealth Development (OCD) which has drafted 10 sustainable development principles that DHCD uses as a guide when developing projects. New construction projects must include at least four of OCD's sustainable development principles. About 60% of DHCD staff is currently LEED certified; they are trying to reach 100%.

- DHCD sustainable design efforts include working with energy performance contractors and using more green products (limited to window and roofing). DHCD is starting to regulate construction and demolition waste recycling.

James Doolin, Massachusetts Port Authority

- Massport supports a number of aviation and maritime facilities: Logan and Hanscom Airports, Black Falcon Cruise Terminal, Massport Marine Terminal, and Conley Terminal; the Tobin Bridge and other commercial development.

- Massport is a self-financed authority that must generate funding. Externally Massport must show it's a competent partner, while internally Massport must try to reduce environmental impacts and follow its Environmental Management Policy. Massport must show its board and senior administration that adding value is a consequence of sustainable design and construction.

- Massport asserts that:
    - Sustainable design is a wise asset management strategy and that these assets will perform better over time resulting in increased value.
    - There is the potential for reducing permitting time for projects and reducing the environmental impact of buildings.
    - Sustainable practices promote good community relations as they positively impact communities that surround Massport property.
    - "Best efforts" are required on Massport property (defined by commitment, active engagement/process, Design Review submissions, and documentation).

- For Massport, Utile Inc. created a LEED "periodic chart" to visually identify LEED credits. Utile also developed a chart on cumulative Life Cycle Savings for Energy Investments.

- Current Massport projects include :
    - The Manulife building on Massport property is seeking LEED Silver.
    - Apartment buildings on parcels G and J are seeking LEED certification but it has been difficult. They are hoping to use sustainable design as a marketing benefit.
    - Delta's new Terminal A at Logan is opening March 2005 and is seeking LEED certification.

- Massport experiences a sustainable design barrier of "information on green buildings" vs. "available data on green buildings". How do you translate the results into a form useable to developers? Building green has real and perceived soft costs and construction cost impacts. The relationship of who bears the added costs v. who reaps the benefits is important.

- Massport has been a leader in integrating clean fuel vehicles into its fleet.

Andrea Ranger, Department of Education

- The Massachusetts Technology Collaborative (MTC) and the MA DOE created the Green Schools Initiative, which gives an extra 2% reimbursement rate incentive, provided by the state, to schools that incorporate efficient energy use and “green” best design practices. Eighteen schools are participating, including elementary, middle, high school, and vocational/technical. Six green schools are completed; more will be finished in 2006. These buildings are 30% more efficient and have average savings of $70,000 cost/year. For more information: http://www.masstech.org--->renewable energy--->green schools building program.

- The DOE/MTC are adapting California’s CHPS (Collaborative for High Performance Schools) program, for Massachusetts, e.g. allowing for differences in climatic conditions, codes and regulations, and environmental priorities between Massachusetts and California.

- CHPS used LEED as its basis; however CHPS covers schools, a specific building type, and its occupants. As compared to LEED, CHPS enforces stricter criteria for low-emitting materials, acoustics, indoor air quality, and construction and demolition recycling. The MA CHPS program will be utilized by the new MA School Building Authority.

Working Group Presentations

Group 1: Education and Training
Keith Beasley, Massport

- The group plans to identify major training and education needs to support a Massachusetts sustainable design program for state agencies and make recommendation for their implementation. The group will evaluate available state-of-the-art resources including: guidance documents, existing training programs, certifications, standards and benchmarking, and support technologies. The Green Roundtable is working on a website to house all the websites on green building design.

- The group wants to target and prioritize specific stakeholders and provide them with appropriate information. Target groups include: high level state officials, implementers, end users and regulators.

- The group sees a need to promote and market successful green building efforts to potential builders and clients.

Group 2: Capital v. Operating Costs
Laura Wernick, HMFH Architects

- The working group recognized the need but also the difficulty in bringing utility and operating & maintenance costs up front during the planning stage. The group wants to brainstorm how to ensure that life cycle cost analyses are incorporated into feasibility studies.

- Question to address: Are there financial mechanisms to link capital and operating management budgets?

- DCAM looks at downstream savings in renovation projects for energy reduction programs and brings those savings into the capital budget. DCAM has a tax-exempt lease purchase program. Can this model be used for green construction projects? The group sees the need to have consistent life cycle cost analyses and performance metrics.

- Group needs an understanding of how the state budgeting process occurs to better comprehend how capital expenses and maintenance and utilities costs are included in the budget.

- Group wants to look at other states to identify model programs and approaches.

Group 3: Sustainable Design Metrics
John Boehs, ARUP
Tim Love, Utile Inc.

- Published sustainable design metrics include: CHPS, Green Globes, USGBC's LEED, city or state rating programs that use LEED as a basis (e.g. Chicago Standard).

- The advantages to the LEED program are that it is nationally recognized; includes a third party verification; already in use in MA; updated continuously; and reduces the state's administrative responsibilities.

- The negatives to the LEED system is that Massachusetts priorities may be different than national standards; data v. information issue; weak post occupancy program; and LEED does not include societal or economic issues (beyond the building).

- One proposed solution offered by the metrics group is to customize LEED for Massachusetts. The state rating guidelines could expand prerequisites, offer additional points, require points to be obtained from each LEED category, and set different standards for greenfield and urban sites.

- Next steps include researching more about each metric system. The group wants to identify extra points that should be added to a LEED type system and reprioritize LEED to match MA's goals. The group is considering recommending hiring a consultant or alternatively having the working group do the research.

- Utile Inc. created a document using graphic design that shows where the points are in the LEED layout system. Most are in Energy and Atmosphere, the least are in Water Efficiency and the Innovation & Design Process.

- The visual developed by Utile helps to show how you can get LEED certified in the least expensive way. Software allows further analysis. The working group is going to use this format to look at LEED v. CHPS and make more specific recommendations to give back to the group.

Group 4: Bidding and Awarding
Quincy Vale, Powerhouse Enterprises

- The working group discussed how to incorporate life cycle cost analysis into the development of specifications and procurement of services. The group is planning to meet with the Capital and Operating Costs working group.

- Group is studying Chapter 143; the new state construction regulations and its impact on selection of qualified contractors.

- How to best communicate with local officials about green projects? Should draft language be provided to include in RFPs? The group has found that there can be reluctance by designers to recommend a specific brand because it limits them. If there are goods and services that appear on the state's environmental preferred purchasing (EPP) list, how can they be included de facto in the construction project contract?

- The group has requested DCAM to explain to them the procurement process and how it interfaces with data and cost analyses.

- When the MA State College Building Authority goes out to bid, they have already performed life cycle cost analyses and when they bond the building, they establish an account for O&M costs.

Group 5: Vision and Leadership
Mark Hanchar, Turner Construction

- There must be informed advocacy about sustainable design and construction in public buildings. Internal marketing must occur inside this Roundtable. The focus should be on the links to green building resources and how to make them accessible to all the leaders who want them.

- Massachusetts is in catch-up mode compared to other states. A key goal is to have this kind of meeting become obsolete and unnecessary in 2020 because everyone is educated.

- How to make the LEED certification process friendlier? A suggestion is to create a course called "Sustainable Design in MA" to help people become LEED certified. The group identified push (legislation) and pull (incentives) solutions.

- Focus on leadership. Who are the leaders? Need to identify, educate, communicate, and support them. For example, who is the sustainable design or environmental affairs reporter for the Boston Globe?

- The group spent a lot of time on the vision statement. Need to be able to communicate the goals of sustainable design in 20 seconds to convince people it is beneficial.

- Important metrics are energy costs, pollutants and water use per square foot.

- Motivation for sustainable building is doing the right thing. How is the money spent? How do you capitalize future savings into the current budget? Contractors get evaluated based on simple cost. Owners may not want to delve into the operation and maintenance side of their building.

- Of all the buildings in 2040, half of them have not yet been built so there is enormous incentive to affect what is going on now to help the future.

Group 6: Incentives
Forrest Speck, University of Massachusetts Boston
Paul Brown, Drummey Rosanne Anderson
Dick Tinsman, Massachusetts Technology Collaborative

- Process is to identify stakeholders and link them to incentives to get the desired interaction, and then prioritize the interactions to find the group's focus.

- Group is researching existing incentives and plans to recommend more and new incentives.

- Stakeholders identified are higher education, local schools, housing authorities, and state agencies.

- Types of incentives are financial, technical, regulatory, legislative, recognition, education and outreach.

- Researched current state-of-the-art incentive programs available nationwide. Washington, California, and Arizona have Executive Orders that mandate all new construction reach LEED Silver (CA also includes renovation projects).

- There are a few penalties—e.g. in Aspen, Colorado, if you want a heated outdoor pool, you have to pay into a renewable energy fund.

- Some initial ideas of the working group are to fund "green cheerleaders" on state projects and to use long-term savings to mitigate up front costs.

- The group recognized some of the incentives available now in Massachusetts to promote green buildings. MTC provides some incentives that have been used by DCAM. MTC is funding a cost/benefit study of CHPS/LEED.

- Group is considering new incentives like lower insurance rates for green building and alternative procurements to move projects along. Focuses of the group are on providing incentives for public higher education and smart growth - housing/transportation projects.

Group 7: Standards, Codes, and Regulations
Kim Cullinane, Massachusetts Technology Collaborative

- The group has decided to reach out to the practitioners and survey architects, engineers, developers, and state agencies and have them identify the top building code and regulatory issues.

- Group proposes to hire an outside consultant to administer survey; group has created a draft survey.

- Want to find out what are the biggest problems. Group does not envision getting a complete barrier list. The 5-10 top barriers will guide the rest of the research. Focus of the group will be determined by the results of the survey.

- Group discussed zoning and enforcement of state codes. Decided to eliminate local zoning from its purview and recognizes that there is another group addressing bidding issues.

Discussion of Research Needs and Questions/Comments

1. Will the work of the working groups be sequenced? For example, should the Metrics group go first, then Leadership? The Education group finds it hard to move forward without more direction from the state. What is the set of priorities set forth by the state of MA? Need a clear guiding vision from the state—what does MA want in 50 years? We need to set clear parameters of what sustainability is to know later if goals have been met.

2. Roundtable members are to email vision statement comments to Mark Hanchar who will then create a 20-second elevator speech.

3. How much state construction occurs in silos? Is there a way to think more about smart growth, for example, for Massport to think not only in terms of transportation, but also of housing? Is the answer coordination between the agencies?

4. We should rate ourselves and benchmark where we are now and where we have to go. Possibly a task for an outside consultant.

5. Should the state develop green building guidelines that are specific to the MA Environmental Policy Act (MEPA) process? Possibly expand MEPA review criteria.

6. Should value engineering or evaluation of projects and costs be done by a consultant? Is it a method that should be studied in the capital v. operating cost group?

7. The objectives of this Roundtable should be made clear. Is it to identify barriers to sustainability and then identify how to break down those barriers?

8. Green building in Massachusetts needs early successes. Each group should identify some quick, easy hits--what to concentrate on in the short term and the long term. This creates positive momentum.

9. Next steps: Have groups schedule meetings with each other. Cross-fertilization could go a long way. How about a working group chair meeting?

10. Combine consultant tasks from different working groups into one Request for Response. Coordinate the consultant bidding process.

11. At a working group chair meeting, can talk about common issues and goals and what would be ideal consultant tasks.

12. Why is the next big meeting three months away? To allow working groups to accomplish tasks between meetings, and it takes a lot to put these meetings together with limited resources.

13. Is there a website where groups can access other groups' work? Power Points prepared in advance were included in the binders handed out at this meeting. The other presentations will be posted on the Roundtable website: www.mass.gov/envir/Sustainable/initiatives/initiatives_roundtable.htm

Next Steps

The schedule and workplan for the year was restated:

- January 2005 – Consensus on Roundtable process and goals
- March 2005 – Agreement on working group process, consultant studies
- March – September 2005 – Research, meet, strategize, prioritize problems and recommendations, interim findings
- June 2005 – Review interim research findings
- September 2005 – Working group recommendations from internal research, interim consultant studies
- December 2005 – Draft final Roundtable recommendations
- February 2006 – Get approval and review final draft report to the Governor, Implementation plan and schedule
- March/April 2006 – Submit Report to Governor

In order to understand how the final recommendations were going to be prepared and agreed upon, an outline of the draft report was suggested:

Chapter 1. Executive Summary
Chapter II. Introduction and Background
Chapter III. Barriers and Recommendations (for each barrier category)
    A. Barrier Description
    B. Key Stakeholders
    C. Recommendations
    D. Implementation Strategies
Chapter IV. Next Steps - Action Plan for State

The format of the Final Report will be discussed by the Working Group chairs and finalized by the Roundtable as a whole in subsequent meetings.

Appendix A

COMMONWEALTH OF MASSACHUSETTS SUSTAINABLE DESIGN ROUNDTABLE

AGENDA

1 Congress Street
Conference Rooms 1102 and 1103
March 10, 2005
8:00 a.m. to 12:30 p.m.

8:00 – 8:30 **I. Registration and Continental Breakfast**

8:30 – 8:45 **II. Welcoming Remarks**
- A. Eric Friedman and John DiModica, Co Chairs, Sustainable Design Roundtable
- B. Cynthia Greene, US EPA New England
- C. John Buckley, General Services Administration

8:45 – 9:45 **III. Current Massachusetts Building Efforts**
- A. DCAM – John DiModica
- B. DHCD – Joe Buckley
- C. Massport – Jim Doolin
- D. DOE / MSBA – Andrea Ranger

9:45 – 10:15 **IV. Working Group Presentations**
1. Education and Training
2. Capital vs. Operating Budget
3. Sustainable Design Metrics

10:15 – 10:30 **BREAK**

10:30 – 11:10 **V. Working Group Presentations continued**
4. Bidding and Awarding Process
5. Vision and Leadership
6. Incentives
7. Standards, Codes & Regulations

11:10 – 11:55 **VI. Discussion of Working Group Presentations**
- A. Responses to Working Group Presentations
- B. Discussion of Research Needs
- C. Agreement on in-house vs. consultant studies

11:55 – 12:15 **VII. Next Steps**
- A. Roundtable Workplan
- B. Working Group Workplans
- C. Next Meeting Topics, Date and Place

12:15 – 12:30 **VIII. Comments / Questions / Meeting Evaluation**

Appendix B

Attendee List for 3-10-05 Sustainable Design Roundtable

Martin Aikens	International Brotherhood of Electrical Workers, Local 103
Amy Barad	Department of Telecommunications and Energy
Keith Beasley	Massport
John H. Boehs Jr.	Arup
Paul S. Brown	Drummey Rosanne Anderson
John Buckley	General Services Administration
Joseph Buckley	Department of Housing & Community Development
David Burson	Massachusetts State College Building Authority, Boston
Dakota Butterfield	The Green Roundtable
Robert Chandler	Goody Clancy
Patricia Chaput	Division of Capital Asset Management
Kim Cullinane	Massachusetts Technology Collaborative
James Doolin	Massachusetts Port Authority
Aisling Eglington	EOEA, Massachusetts Environmental Policy Act
Kenneth I. Fisher	Boston Society of Architects c/o Gensler Associates
Peter Fourtounis	DiMella Shaffer
Peter Gorer	Facility Asset Strategies
Cynthia Greene	US EPA New England
Mark Hanchar	Turner Construction
David Hancock	NAIOP c/o Child Bertman Tseckares
Barbara Hansberry	Office of Inspector General
Richard Henderson	Massachusetts Development Finance Agency
Tracy Holt	Massachusetts School Building Authority
Janis Kearney	Massachusetts Bay Transportation Authority
Tim Love	Utile Inc.
Lawrence Masland	Division of Energy Resources
Edward McGlynn	NSTAR Electric
Eileen McHugh	Division of Energy Resources
Richard Murphy	KeySpan Energy
Lauren Miller	Executive Office Of Environmental Affairs
Dimitriy Nikolayev	Operational Services Division
Aditi Pain	University Of Massachusetts Boston
Andrea Ranger	Department of Education
William Reyelt	Department of Housing & Community Development
Jenny Russell	Merck Family Funds
Jeffrey Savoie	Consigli Construction
Jennifer Somers	Environmental Health & Engineering Services
Forrest Speck	University Of Massachusetts Boston
Joanne Telegen	Division of Capital Asset Management
Richard Tinsman	Massachusetts Technology Collaborative
Quincy Vale	Powerhouse Enterprises
Mark Warren	Sei Companies
Laura Wernick	HMFH Architects
Shane Whelan	General Services Administration
Mark Winslow	Gilbane Building Company